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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/889,860 | 07/23/2001 | Jean-Michel Georges | BDL-341XX | 1184 |
| 207 | 7590 | 04/02/2004 | EXAMINER | |
| WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP TEN POST OFFICE SQUARE BOSTON, MA 02109 | | | AFTERGUT, JEFF H | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1733 | | |
| DATE MAILED: 04/02/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------|------------------------|---------------------|
| Advisory Action | Application No. | Applicant(s) |
| | 09/889,860 | GEORGES ET AL. |
| | Examiner | Art Unit |
| | Jeff H. Aftergut | 1733 |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 March 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) The period for reply expires 5 months from the mailing date of the final rejection.
- b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. The proposed amendment(s) will not be entered because:
 - (a) they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) they raise the issue of new matter (see Note below);
 - (c) they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: ____.

3. Applicant's reply has overcome the following rejection(s): See Continuation Sheet.
4. Newly proposed or amended claim(s) ____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. The a) affidavit, b) exhibit, or c) request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. For purposes of Appeal, the proposed amendment(s) a) will not be entered or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: 16, 17 and 24.

Claim(s) objected to: ____.

Claim(s) rejected: 1-13, 15, 18-23, 25-27.

Claim(s) withdrawn from consideration: ____.

8. The drawing correction filed on ____ is a) approved or b) disapproved by the Examiner.

9. Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). ____.

10. Other: ____.



Jeff H. Aftergut
Primary Examiner
Art Unit: 1733

Continuation of 3. Applicant's reply has overcome the following rejection(s): the rejections of claims 16 and 17, see section 5 below. Additionally, note that in claim 13, if applicant recited a lip and rim arrangement for the plug and bowl, claim 13 would define over the prior art of record as addressed below. Note that claim 24 also recited that the final infiltration step included the use of the ceramic matrix phase and thus claim 24 is also allowable.

Continuation of 5. does NOT place the application in condition for allowance because: As set forth in the FINAL rejection (with regard to claim 1), the use of a thermostructural material (such as graphite materials) to plug the opening in the crucible as suggested by Soviet Union abstract '755. Additionally, the reference suggested that one skilled in the art would have made the plug from the same materials that the crucible was made from and the reference to E.P. '504 clearly made the crucible from thermostructural materials. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the thermostructural crucible with a thermoset plug as such was envisioned by Soviet Union '755 and one skilled in the art would have expected that the plug would have been formed from the same materials used for the crucible. With regard to claim 13, it should be noted that the reference to Soviet Patent '755 suggested that the plug would have been formed from 2 pieces. Additionally the reference suggested that pieces 4, 5 were threaded and pressed into the opening to fit therein. The applicant is advised that claim 13 does not define a lip and rim arrangement as argued. Additionally, the language "the rim" lacks proper antecedent basis in the claim. It is suggested that applicant define that the axial opening has a rim and that the plug has a lip which matches the shape of the rim to interfit with the same. The reference to Soviet Union does not suggest the specified arrangement for the plug. If applicant were to redefine the same in claim 13, claim 13 would define over the prior art of record. Regarding claim 7, if the fibers were provided with a surface treatment which applicant describes as normal, then it would appear that the reference would have stated that these treated fibers were employed in the processing. The reference is silent as to the use of such a pretreatment and therefore it is believed that the reference teaches the use of untreated materials. Regarding claim 15, one versed in the art would have been expected to perform densification in order to attain the desired level of carbon in the carbon-carbon composite after the use of a final densification step is taken as conventional in the art. The applicant is advised that chemical vapor infiltration is commonplace in the formation of carbon-carbon composite structures and such processing was suggested by E.P. '504. Not regarding claim 22, the bowl of E.P. '504 was made from thermostructural materials. As such, the reference suggested a thermostructural coating for the bowl assembly. It should be noted that the claim does not require additional coatings after formation of the completed bowl. Regarding claim 23, chemical vapor deposition is the same as chemical vapor infiltration. What was taken as within the skill level of the ordinary artisan was to design an infiltration device which was large enough to handle two bowls simultaneously. One skilled in the art would have been expected to know that the formation of a device which could handle two bowls instead of one would have increased the productivity of the operation and as such it would have been obvious to provide a device which was twice the size of a device which infiltrated (CVD) a single bowl. Regarding claims 16 and 17, the rejection of these claims is hereby withdrawn. It should be noted that none of the prior art of record suggested that after the plug was closed one skilled in the art would have infiltrated the assembly with a ceramic matrix phase (and in particular silicon carbide); while infiltration after the plug was assembled would have been obvious to provide the desired densification for the finished assembly, the prior art failed to teach densification with a ceramic phase material for the assembly.